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The drawings were objected to as not showing every feature of the claimed invention. Accordingly, a new drawing, Fig. 11, has been submitted herewith, and shows the elements noted in the Office Action: rotor (disk 17), friction members (pads 13a, 13b), electronically operated actuator (electric motor 22); a corresponding wheel FL is represented in, e.g., Fig. 1. The specification has been amended as set forth above to reflect the addition of Fig. 11. No new matter has been added, since all of the elements shown in Fig. 11 were described in the application as originally filed, e.g., as in the present specification at page 35, lines 17-26. Withdrawal of the objection to the drawings is accordingly respectfully requested.

Claim 17 was rejected under 35 USC 112 as being indefinite. Accordingly, claims 16 and 17 have been amended to resolve any ambiguity perceived by the Examiner. Specifically, a "plurality of electric power sources" are now recited in each of claim 16 and 17. The plurality of electric power sources may include at least two electric power sources for the front brake actuators (claim 16), or for the rear brake actuators (claim 17). The two electric power sources may be the same for both the front brake actuators and the rear brake actuators, as in the embodiments of Figs. 1-3. On the other hand, the two electric power sources for the rear brake actuators may be power sources different or separate from the electric power sources for the front brake actuators, as described in the first paragraph on page 21 of the specification. In any event, it is respectfully submitted that claims 16 and 17 as amended accurately reflect this set of possibilities. Accordingly, withdrawal of the rejection of claim 17 under 35 USC 112 is respectfully requested.

Claim 5 was rejected under 35 USC 102(b) as being anticipated by Loy et al. (Loy) (US 4,655,634). Anticipation requires that a single reference disclose each and every claim element. In view of this, Loy does not anticipate claim 5 for at least the reason that Loy does not disclose a plurality of switches connected in series with each other, and which are turned on in response to the operation of a brake operating member that is common to the plurality of switches. The Office Action alleges that door 30 or 36 of Loy is equivalent to the claimed brake

operating member, and that switches 42, 44 of Loy are equivalent to the claimed switches. However, switches 42 and 44 of Loy are turned on and off independently of each other, in response to respective operations of the doors 30 and 36; that is, switches 42 and 44 of Loy are not turned on and off by a common operating member, as required by claim 5. Accordingly, withdrawal of the rejection of claim 5 as anticipated by Loy is respectfully requested.

Claims 13 and 14 were rejected under 35 USC 102(b) as anticipated by Blattert (US 6,227,626). However, this rejection should be withdrawn for at least the reason that Blattert does not disclose the brake control apparatus required by claim 13. Instead, elements 162 and 163 of Blattert, alleged to be equivalent to the claimed brake control apparatus, are part of a mechanically-linked apparatus, not an apparatus that controls an electric energy as required by claim 13. More specifically, none of elements 160, 161, 162 or 163 of Blattert appears to serve as a brake control apparatus which controls an electric energy to be supplied from the electric power source device to an element (brake) 170, 171, 172 or 173. Each of lines 160a, 161a, 162a, 163a connecting the elements 160, 161, 162, 163 and the elements 170, 171, 172, 173 represents a mechanical linkage (see col. 4 lines 26-28) rather than an electric conductor.

Blattert is also deficient with respect to other features required by claim 13, such as the switching device recited. In Blattert, to each of the elements 160, 161, 162, 163, there are connected both of the first and second batteries 101, 100 as indicated by arrows +E1, +E2 in the sole figure (see col.4 lines 35-38). While the Examiner interprets the element (electronic controller) 120 as a switching device, Blattert does not clearly teach how the element 120 participates in the connection or disconnection of the batteries 101, 100 to or from the elements 160, 161, 162, 163. Further, Blattert fails to teach that the element 120 includes a plurality of switching devices, as recited in amended claim 13, each of which is provided for a corresponding one of the batteries 101, 100 so as to selectively permit and inhibit supply of the electric energy by the corresponding one of the batteries 101, 100.

In view of the foregoing, claim 13 is allowable over Blattert. Further, since claim 14 is dependent on claim 13 and therefore includes its limitations, claim 14 is likewise allowable over Blattert for at least the reasons discussed above. Accordingly, withdrawal of the rejection of claims 13 and 14 as anticipated by Blattert is respectfully requested.

Claim 15 was rejected under 35 USC 102(e) as being anticipated by Dieckmann (US 6,203,116). However, this rejection is not sustainable for at least the reason that Dieckmann does not disclose an electric power source device that includes a front left brake power source and a front right brake power source which are arranged to supply electric energies to the front left and right brake control devices, respectively, independently of each other, and a common rear brake power source arranged to supply an electric energy to both of the rear left and right brake control devices. In the brake system of Dieckmann, the brake power sources 22a, 22 are not arranged to supply electric energies to the front left element 14a and the front right element 14b, respectively, independently of each other. Rather, the brake power source 22 is arranged to supply an electric energy to both of the front left and right elements 14a, 14a during a normal mode, while the power source 22a is arranged to supply an electric energy to both of the front left and right elements 14a, 14a during an emergency mode. Accordingly, withdrawal of the rejection of claim 16 as anticipated by Dieckmann is respectfully requested.

Claim 39 was rejected under 35 USC 102(e) as being anticipated by Michaud (US 5,532,674). However, this rejection is not sustainable for at least the reason that Michaud does not disclose a switching device that includes a first switch and a second switch which are connected in parallel with each other, as required by claim 39. It is noted that the Office Action (par. 8) refers to elements 57, 58 of Michaud as "an electrically controlled brake", and alleges that switches 47 and 48A of Michaud are connected in parallel. The Applicant respectfully disagrees. Switches 47 and 48A of Michaud cannot be viewed as being connected in parallel as required by claim 39, because, as can be seen by inspection of Fig. 11, when the ignition switch 47 is held in its OFF state, the

electric power source device 46 is necessarily disconnected from the elements 57, 58, irrespective of the ON-OFF state of the switch 48A. Further, the elements 57, 58 do not provide a brake which brakes a vehicle wheel. Rather, the elements 57, 58 are used for detecting movement of a motorcycle by detecting the rotation of a wheel. Therefore, withdrawal of the rejection of claim 39 as anticipated by Michaud is respectfully requested.

Claims 16, 17 and 34 were rejected under 35 USC 103(a) as being anticipated by Blattert in view of Maron et al. (Maron) (US 5,829,845). It is noted that to establish a prima facie case of obviousness under Section 103, all claim limitations of a claimed invention must be taught or suggested by the prior art. See MPEP, Section 2143.03 and In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In view of the foregoing, it is respectfully submitted that the cited combination fails to support the asserted rejection.

Claim 16, similarly to claim 13, recites a brake control apparatus for controlling an electric energy to be supplied from an electric power source device to a brake. Blattert does not teach or suggest this feature. As discussed above in connection with claim 13, neither of elements 162, 163 in Blattert, alleged to be equivalent to the claimed brake control apparatus, appears to serve as a brake control apparatus which controls an electric energy to be supplied from an electric power source device to a brake. Instead, as noted earlier, elements 160, 161, 162, 163 are connected to brakes 170, 171, 172, 173 by mechanical linkages 160a, 161a, 162a, 163a, not by electrical conductors.

Accordingly, other parallels alleged by the Office Action between structures recited in claim 16 and structures as shown in Blattert are inconsistent. For example, the Office Action (par. 10) alleges the electronic controller 120 of Blattert to be the equivalent of the switching device recited in claim 16. However, since Blattert does not teach or suggest the claimed brake control apparatus, then the electronic controller 120 of Blattert cannot be equivalent to the claimed switching device, because claim 16 requires the switching device to be disposed between the electric power source device and the brake control apparatus.

Maron is cited as teaching "details of the front wheel brake components". However, Maron clearly does not supply the deficiencies in Blattert noted above. Accordingly, even in combination, Blattert and Maron cannot meet the limitations of claim 16. Therefore, claim 16, and claim 17 dependent thereon, are allowable over Blattert and Maron. Moreover, claim 34 depends on claim 13, and therefore is allowable over Blattert and Maron for at least the reasons discussed above in connection with claim 13. Withdrawal of the rejection of claims 16, 17 and 34 as unpatentable over Blattert and Maron is therefore respectfully requested.

Claims 3, 18, 24, 40, 44 and 45 were rejected under 35 USC 103(a) as being unpatentable over Michaud in view of Maron.

Claims 3 and 18 depend on claim 39 and therefore incorporate its limitations. As discussed earlier, Michaud does not teach or suggest the features recited in claim 39, and Maron clearly does not remedy the deficiencies in Michaud. Therefore, claims 3 and 18 are allowable over Michaud and Maron.

Claim 24 is allowable over Michaud and Maron for at least the reason that these references do not teach or suggest a switching device disposed between an electric power source device and at least one of a brake control apparatus and a brake, the switching device being turned on for connecting the electric power source device to the brake control apparatus and a brake, in response to an operation of a brake operating member, as required by claim 24. In arguing that Michaud renders claim 24 unpatentable, the Office Action (par. 11) alleges, for example, an equivalency between elements 57, 58 and the claimed brake. However, as noted earlier in connection with claim 39, the elements 57, 58 of Michaud do not provide a brake which brakes a vehicle wheel; instead, elements 57, 58 relate to detecting movement of the motorcycle by detecting the rotation of the wheel. Accordingly, the other structures in Michaud alleged, in association with elements 57, 58, to be equivalent to structures recited in claim 24 cannot meet the required functional relationships. Maron, again, is cited as teaching details of an electrically actuated front brake, but cannot supply the deficiencies noted in Michaud.

Claim 40 is allowable over Michaud and Maron for at least the reasons discussed above in connection with claim 39. That is, like claim 39, claim 40 requires a first switch and a second switch which are connected in parallel with each other. As noted earlier, Michaud does not disclose such an arrangement, and Maron does not supply the deficiencies in Michaud. Further, claims 44 and 45 depend on 40, and therefore are allowable over Michaud and Maron for at least the foregoing reasons.

In light of the foregoing, withdrawal of the rejection of claims 3, 18, 24, 40, 44 and 45 as unpatentable over Michaud and Maron is respectfully requested.

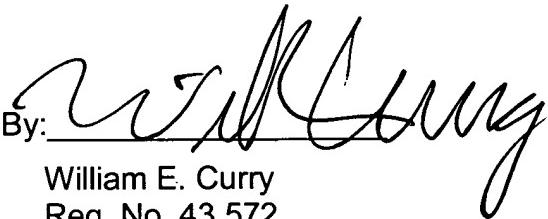
Claims 41, 46 and 47 were rejected under 35 USC 103(a) as being unpatentable over Michaud in view of Blattert. However, like claims 39 and 40, claim 41 recites first and second switches connected in parallel, which as demonstrated above are absent from Michaud. Moreover, Blattert does not supply this deficiency in Michaud. Accordingly, withdrawal of the rejection of claim 41, and of claims 46 and 47 dependent thereon, as unpatentable over Michaud and Blattert is respectfully requested.

In view of the above discussion, the applicant respectfully submits that the present application is in all aspects in allowable condition, and solicits favorable consideration and early issuance of a Notice of Allowance.

The Examiner is invited to contact the undersigned at (202) 220-4323 to discuss any matter concerning this application. The Office is authorized to charge any fees under 37 C.F.R. 1.16 or 1.17 related to this communication to Deposit Account No. 11-0600.

Respectfully submitted,

Dated: 7/10/03

By: 
William E. Curry
Reg. No. 43,572

KENYON & KENYON
1500 K Street, N.W., Suite 700
Washington, D.C. 20005
Tel: (202) 220-4200
Fax:(202) 220-4201

VERSION OF AMENDMENTS WITH MARKINGS TO SHOW CHANGES

IN THE SPECIFICATION:

Page 35, lines 11-27 and page 36, lines 1-4, have been amended as follows:

Fig. 9 is a diagram showing an electrical circuitry of the braking system of Fig. 8; and

Fig. 10 is a block diagram showing a control apparatus of the braking system of Fig. 8; and

Fig. 11 is a view of a part of a brake which is included in the braking system of Fig. 1.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to Figs. 1-3, the electrically controlled braking system shown therein has four electrically controlled brakes 10, 12, 14, 16 for respective front left and right wheels FL, FR and rear left and right wheels RL, RR, and a brake control apparatus 18 for controlling of these brakes 10, 12, 14, 16. The brakes 10 and 12 for the front wheels FL, RF are disc brakes including respective electric motors 22, 24. Each of the disc brakes 10, 12 has friction pads 13a, 13b which are forced onto a brake disc 17, as shown in Fig. 11, so that the corresponding front wheel FL, FR rotating with the brake disc is braked. The brakes 14, 16 are drum brakes including respective electric motors 30, 32. Each

of the drum brakes 14, 16 has brake linings which are forced onto a brake drum so that the corresponding rear wheel rotating with the brake drum is braked.

IN THE CLAIMS:

13. (Three times amended) An electrically controlled braking system including an electrically controlled brake for braking a wheel of an automotive vehicle, an electric power source device, a brake operating member, and a brake control apparatus for controlling an electric energy to be supplied from said electric power source device to said brake, for thereby controlling an operation of said brake, when said brake operating member is operated, said braking system comprising:

a switching device disposed between said electric power source device [.] and at least [one of] said brake control apparatus [and said brake], said switching device being turned on for connecting said electric power source device to said at least [one of] said brake control apparatus [and said brake], in response to an operation of said brake operating member,

wherein said electrically controlled brake includes a front brake for braking a front wheel [and a rear break for braking a rear wheel],

[and] wherein said brake control apparatus includes a front brake control device for controlling an operation of said front brake [and a rear brake control device for controlling said rear brake],

wherein said electric power source device includes a plurality of electric power sources which are arranged to supply electric energies to said front brake control device independently of each other,

and wherein switching device includes a plurality of switching devices each of which is provided for a corresponding one of said plurality of electric power sources so as to selectively permit and inhibit supply of the electric energy by the corresponding one of said plurality of electric power sources.

16. (Three times amended) An electrically controlled braking system including an electrically controlled brake for braking a wheel of an automotive vehicle, an electric power source device, a brake operating member, and a brake

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control apparatus for controlling an electric energy to be supplied from said electric power source device to said brake, for thereby controlling an operation of said brake, when said brake operating member is operated, said braking system comprising:

a switching device disposed between said electric power source device, and at least one of said brake control apparatus and said brake, said switching device being turned on for connecting said electric power source device to said at least one of said brake control apparatus and said brake, in response to an operation of said brake operating member,

wherein said electrically controlled brake includes a front rotor rotating with a front wheel, a front friction member, and an electrically operated front brake actuator for forcing said front friction member onto said front rotor,

and wherein said electric power source device includes a plurality of electric power sources including at least two electric power sources arranged to supply electric energies to said front brake actuator independently of each other.

17. (Twice amended) An electrically controlled braking system according to claim 16,

wherein said electrically controlled brake further includes two electrically operated rear brake actuators each of which is arranged to force a rear friction member onto a rear rotor rotating with a corresponding one of rear left and right wheels,

and [said electric power source device includes] wherein said plurality of electric power sources include two electric power sources provided for said two rear brake actuators, respectively.